DIAGNOSTIC TESTING IN PSYCHIATRIC PRACTICE*

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I.

PSYCHIATRIC practice, like practice in all other branches of medicine, needs diagnostic tests to supplement anamnesis and clinical examination. In psychiatry, even more than in other branches of medicine, the diagnostic tests are rarely specific for a disorder. In clinical psychiatry, even more than elsewhere in medicine, differential diagnosis is safer if several tests are available than if only one test is at our disposal. Psychodiagnostic tests, like other test procedures, rarely yield alone a dependable diagnosis and must therefore be viewed in the light of the data of anamnesis and clinical examination. Even more rarely than other tests in medicine can psychodiagnostic tests measure a process or propensity of the organism in its natural course; rather they expose the organism to standard stimuli and record the reactions. Psychodiagnostic procedures therefore resemble more the stress-tests (e.g., of cardiology) than the usual laboratory tests of medicine. Attempts at developing and clinically exploring psychodiagnostic procedures can be a potent tool in exploring organization and disorder of the personality. The quest after diagnostic procedures has often played such a role in the broad field of medical science.

It is easy enough to state the similarities of psychodiagnostic tests to other tests of medicine. It is quite a bit harder to state the differences. It is true enough that the medical laboratory can work with specimens taken from the body, while psychodiagnostics can deal only with various aspects of the total behaving organism. The final arbiter of all medical diagnosis is the autopsy, but there is no such final arbiter of psychiatric diagnosis, unless the psychiatric condition was a symptom of a neurological or glandular disorder.

The times have passed in which the difference could have been

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described by saying that medical diagnosis is not concerned with the total behavior of the organism while psychodiagnostics is. Today medicine *is* concerned with the total behavior of the body, though it does not always need to fall back on the study of the total behavior since it has diagnostic procedures approaching specificity. The difference lies rather in the frame of reference to which the behavior observed is subsequently related. Medical diagnosis relates it to the framework of physiology, psychodiagnosis to the framework of psychology. But even this distinction is tenuous, and not only because of the so-called psychosomatic problems.

My plan this evening is to dwell first, in brief, on what I just called the framework of psychology, in order to indicate some of the problems psychodiagnostics is up against. Then I should like to take two well-known tests, the Rorschach Test and the Bellevue Scale, and illustrate with them the nature and problems of psychodiagnostics. In closing I shall dwell on some of the future tasks of psychodiagnostics and on the relation of psychodiagnostics to medical practice.

II.

What is this framework of psychology to which psychodiagnostic data must be related?

Some 2500 years ago Heraclitus said: "man's character is his fate." In present-day language this means that the behavior of the individual is, in all its facets, regulated by a unique organization—his personality. Major and minor behaviors alike are regulated by the personality and express the personality. Thus we would expect that in principle every behavior should be usable as an indicator, a test, of the personality. Why this isn't quite so we shall see later on. Not only adjusted but maladjusted behavior, i.e., psychiatric disorder, is also an expression of the personality. It is one of the fundamental assumptions of present-day psychiatry that psychopathological phenomena are exaggerations, decompensations, of trends normally existing within the personality.

To view behavior in the framework of psychology means to ask, for every behavior manifestation: What is its place in the personality organization and how does it therefore express the personality and its pathology?

The time-honored method of psychiatric case history does exactly this. It obtains a description of a segment of behavior from the patient

and from informants, and treats it as a record of the past fate of the individual from which to infer his personality and its pathology. From the picture thus obtained it predicts future fate, i.e., prognosis.

Psychiatric case history and clinical examination have to contend with a burdensome abundance of behavior data, the sources, collection and evaluation of which inevitably involve *subjective* selection. It is in fact amazing how effective these tools become in the hands of people with theoretical training, gift of empathy, and experience. Yet besides being scientifically founded, the taking of a good case history and the giving of a good psychiatric examination are also an art.

The task of psychodiagnostics is to supplement case history and clinical examination by obtaining *objectively* selected behavior segments revealing of the individual's personality. The fact that every behavior segment is expressive of the personality does not make the psychodiagnostic job very easy. Experience with case history and psychiatric examination shows that an abundance of data, as well as a scarcity, can be an obstacle, since it necessitates arbitrary selection. This is not the only difficulty either. Consider one behavior segment: how a person handles a fork and knife. This behavior is highly stereotyped on the American scene—how revealing can it then be of the individual? Contrasting or in harmony with other behavior segments it is revealing, but by itself it would be a poor choice as a test sample of behavior. Take on the other hand facial expressions. They certainly show extreme individual variability and are very characteristic of the individual. Actually they are the means by which we intuitively judge people. But as a behavior segment they would be a poor choice for psychodiagnostics—they are so individual and so tied up with past history that comparisons between individuals can hardly be made by means of them, and the study of other additional broad segments of behavior is needed to decipher the many messages they convey about the individual's personality. Or take, e.g., this experience: a psychiatrist, deriding diagnostic tests, told me once that he could tell just as much about a man from the way his hat is crumpled—as any test could. Is "hat-crumpling" a good and revealing behavior sample? What about the people who do not have a hat along just then; what about those who have a new hat and did not manage to crumple it up definitively as yet; and what about those who just do not have hats?

The behavior sample psychodiagnostics can use for the purpose of

testing must be neither so broad as to be uneconomic or necessitating subjective selection, nor so stereotyped as to be empty, nor so idiosyncratic as to make comparison and interpretation unduly difficult; and last but not least, it must be ubiquitous—obtainable from any person at any time.

With these principles in mind let us visualize once more the problem of psychodiagnostics. In front of us stands a man who carries within the confines of his skin a unique organizing principle, his personality—what can we do to make it possible for him to reveal it to us? What we do is our test; what he reacts with is the behavior sample from which we expect information about his personality structure and disorder.

One more point about the framework of psychology before we turn to study, in the Rorschach Test and in the Bellevue Scale, the choice of behavior sample for psychodiagnostic purpose.

We are all familiar with the phrase: "this is just a rationalization." It is a psychiatric-psychoanalytic phrase that has invaded common parlance. What does it mean? We all know it means that the person addressed is accused of having a motive other than the one he stated. If we use the term correctly and are charitable, then we imply that he is not aware of this other motive. But the phrase implies for psychiatry something more, over and above this meaning. It implies that, as in physics there is an objective process of electromagnetic waves underlying the subjective experience of color, so in the framework of psychology there is an objective psychological process underlying both the subjective experience and the objectively recorded behavior. When we speak of personality organization we mean the totality of these underlying processes. —When we take a behavior sample it is not the *content* of the motor, verbal, etc., behavior which is the focus of our interest, because that may or may not be revealing of these underlying processes, i.e., the personality; it is rather the *form* characteristics of the behavior. E.g., in an Association Test it is not so much the content of a reaction word, but rather the reaction time and its relation to the stimulus word which are revealing of the process underlying the reaction.

The process underlying most behavior is a thought process, conscious or unconscious. The term "thought process" is used here in a broad sense which includes perception, imagery, fantasy, etc. Much of the theory of psychodiagnostic tests boils down to the study of thought processes. This is a field scarcely even mapped by academic psychol-

ogy, psychiatry or personality study. Only psychoanalysis has made some initial inroads.

Research in psychodiagnostic testing leads to new knowledge of these processes, and thereby to a better understanding of mental disease. In medicine the search for and the clinical validation of new diagnostic tests often brought better understanding of the disease. In psychiatry, where the concept of disease entities is still entirely in flux, psychodiagnostics is always as much a research job as it is a clinical service.

III.

I shall now describe and discuss two tests, the Rorschach Test and the Bellevue Scale. My purpose is not to describe them in detail, because these tests are probably familiar by now and the time available is insufficient. Rather, I shall illustrate with them the methods and problems of psychodiagnostics.

The Rorschach Test consists of ten symmetrical inkblots, some in shades of gray and black, others in bright colors. The cards are presented one by one in a standard sequence, with the question, "What does it look like to you?" The verbal responses and the reaction time are recorded. The responses are then scored. The scoring consists of five parts: 1) the area of the inkblot to which the response refers is scored, differentiating responses which refer to the whole card, to a well-articulated part of it, to a tiny, inconspicuous detail, etc.; 2) the content of the response is scored, differentiating responses of animal content, human, plant, inanimate, etc.; 3) those perceptual characteristics of the area which suggest the content given them by the subject are scored, differentiating responses in which form, or color, or shadings, or seeming motion, are most suggestive; 4) four degrees of accuracy with which the form of the area fits the content are scored; 5) finally the responses which are extremely frequent, or uniquely original, and those of peculiarly deviant verbalization, are scored and distinguished. These scores which represent the formal qualities of the responses, rather than their content, serve as the basis of interpretation.

What are the virtues of this test? A comparison with the case history or clinical examination will make some of them clear. First of all, it is a limited and well-circumscribed behavior segment which can be obtained from the overwhelming majority of patients, and can be fully recorded and numerically scored, allowing for direct comparison of

scores, both in the individual and between individuals. Secondly, the subject does not know what the significance of his responses is, a fact that reduces, though by no means eliminates, deliberate withholding as well as inhibition and blocking. Thirdly, even where withholding, inhibition, blocking or distortion of fact occurs, the consequences are different in the test than in the case history or clinical examination: in the latter we do not have before us the facts about which the patient talks or is silent; in the test the test-cards are the facts against which the responses, or lack of them, can be directly matched. Last but most important, the inkblots are unstructured material on which the subject readily displays his structuring, i.e., organizing principles and processes; the configuration of all these processes is unique to his personality. In giving life history or talking about any topic we are able to, and actually do, use our cliches and our book-knowledge for all they are worth. In fact it is part of normal adjustment to stay within familiar regions of experience and have well-prepared and therefore stereotyped responses to what we expect to encounter in them. The unstructured material of the test takes the person into unfamiliar regions and therefore tends to reveal his organizing principles, rather than only his ossified, well-established reaction patterns. Not that these reaction patterns are not important or individually characteristic, but they are not all that can or need be known about the person.

What are the outstanding limitations of this test? First of all, it is only one behavior sample and thus necessarily incomplete, even though it is one of the best, if not *the* best, we have hit on. In fact its degree of incompleteness varies with the personality of the subject. Secondly, though it eliminates the subjectivity in selection and organization of the behavior sample and makes direct interpersonal and intrapersonal quantitative comparisons of scores possible—its final interpretation can be no better than the actual experience and clinical knowledge of the psychodiagnostician. In other words, it is not a mechanical diagnosing machine, even though it has real safeguards of objectivity. Thirdly, in spite of the 28 years the test has been in use, there is still much that we do not know about it. The reason for our ignorance lies in the limitations of systematic clinical data, since comparison with such data is a most important way to explore such a test; and secondly, in the limitations of our knowledge of perceptual and thought processes which underlie performance on the test. The test has stimulated new and promising

work in both areas, but this is not the place to enter on that. Fourthly, this test, like other behavior samples, reconstructs primarily personality organization, and by itself need not give direct nosological information. This may actually be an advantage as well as a limitation, considering the state of flux of psychiatric nosology. Yet in the majority of psychotic conditions, depressions and schizophrenias, it tends to yield specific indicators and in the hand of the experienced examiner it is so far the best tool for diagnosis of prodromal, borderline or ambulatory schizophrenic conditions so easily missed clinically.

Let us turn now to the Bellevue Scale. This is an intelligence test consisting of the following eleven groups of items: *Comprehension:* e.g., what would you do if you found an envelope in the street that is sealed, stamped and addressed? *Information:* ranging from the simple question, "Who is the president of the United States?" to the extremely difficult, "What is the Apocrypha?" *Arithmetic:* ranging from simple additions to inverse proportions. *Digits Span:* immediate recall of 3 to 9 digits forward and backward. *Similarities:* ranging from, "How are an orange and a banana the same?" to, "How are praise and punishment the same?" *Vocabulary:* definition of words ranging from "apple" to "moist." *Picture Arrangement:* consisting of the arrangement of isolated pictures so as to form a meaningful story. *Picture Completion:* naming the parts missing in pictures. *Block Design:* construction of designs with blocks according to printed sample. *Object Assembly:* assembling simple jig-saws of a man, a head and a hand. *Digit Symbol:* putting symbols beneath numbers according to a sample.

Performance on each of these groups obtains a numerical raw-score. These raw-scores are translated into equated scores directly comparable with each other.

This test was designed to measure "intelligence" and does yield I.Q.'s. Indeed in clinical work we often need an objective appraisal of intelligence. It turned out, however, that it has uses other than the one for which it was designed. This is how it happened. It was noticed even before the advent of the Bellevue Scale that certain intelligence-test items tend to draw very poor performance from patients in general and from certain types of patients in particular. These findings, however, remained anecdotal and unused because of the structure of the tests in which they were observed. Let us not spend time on the test structures which tend to conceal these findings and see rather how the Bellevue

Scale reveals them.

In each item-group of this test the subjects face a set of problems of similar quality and graded difficulty. Thus it becomes obvious on what level of difficulty the subject fails, and since the item groups have equated scores, it is clear in which types of intellectual activity his performance rises above or falls below his other performances. The eleven scores can be plotted on a graph on which the degree of discrepancy of the scores from each other and from their central tendency is visually obvious. The study of such score relationships is called scatter or pattern analysis. Such analysis is feasible only on tests whose items are organized into homogeneous groups and in which the scores of these groups are directly comparable. The great advantage of the Bellevue Scale is that it fulfils these requirements. Its limitations are: first, that not all the item groups have a sufficient number of items so that their levels of difficulty are not always sufficiently continuous. Secondly, that it is not a sufficiently broad sample of those behaviors which we designate as intellectual activities. Thirdly, though clinically scatter analysis has proven itself a useful tool, our understanding of it is still extremely limited. The limitations are here again due in part to the unstable character of psychiatric nosology, terminology, and agreement in observation. In part, however, they are due to the limited amount of tested knowledge we have of so-called "intellectual activities." Scatter analysis has yielded already and promises to yield rich information in this area. On this point I should like to dwell in some detail.

We have seen that the individual performance on various item-groups can fluctuate; even individuals with identical I.Q.'s differ in their pattern of fluctuations, but the preëminent interest in the numerical I.Q. as such prevented discovery of the significance of these fluctuations. Yet we have striking experience in everyday life of these individual differences. We all know people of phenomenal memory who cannot remember numbers; others who have excellent judgment but quite unremarkable store of knowledge or memory; still others whose brightness is impressive though it stops at the simplest arithmetical calculation.

Scatter analysis attempts to create order in the jungle of these anecdotal observations. It assumes that performance in the various intellectual activities reflects the effectiveness of corresponding functions of thought organization, using this term again in the broad sense in which

I used it before. The effectiveness of these functions depends first on their developmental conditions in the course of personality development of which they are integral parts; secondly, on the specific interferences due to psychiatric disorder; thirdly, on the effects of the examination situation such as exacerbation of anxiety, tension, fatigue, etc.

It was possible, e.g., to demonstrate by scatter analysis that in hysterical-like personality organizations and conditions which are characterized by the prevalent defense mechanism of repression, the tested volume of remembered information is below the expected level of the subject. It has been shown that in compulsive personalities and obsessive-compulsive conditions characterized by the prevalent defense mechanism of intellectualizing, vocabulary and information will tend to be above the expected level of the subject. It has been proven that conscious anxiety impairs Digit Span, while tenseness replacing conscious anxiety tends to raise it above the individual's expected level. This test too, though in the main it indicates personality characteristics, has some highly specific diagnostic indications for schizoid disorders, for depressions, etc.

In scatter analysis we have found an avenue to grapple with the discrepancies among the intellectual assets of the individual and with their dependence on his personality organization. We have put this avenue to successful, if limited, clinical use.

The principle of this kind of testing is different from the Rorschach type of testing. In the Rorschach type the individual is faced with the task to organize an unstructured medium and he reveals thereby the organizing principles of his personality. In the Bellevue type he is to apply acquired skills, capacities, knowledge, etc., to reveal as it were relatively well organized and crystalized tools of his personality. In the Rorschach the organizing process itself is observed; in the Bellevue Scale it is auxiliary apparatuses which have crystalized from the organizing processes in the course of individual development. The Rorschach-type of tests are called projective, the Bellevue-type, non-projective tests of personality. These are complementary rather than competing tests. Combined use gives the greatest margin of reliability.

Using only the Rorschach one can get easily into the position of the legendary Eastern king. An Eastern ruler heard about the great man Moses and since he could not get Moses to visit him, nor did he have time to go to visit Moses, he sent his painter to paint this man

Moses for him. When the painter returned, the king called his astrologers and phrenologists and asked them to tell him what kind of man the painting depicted. The king knew Moses by his reputation as a leader of men, as a kind man, as a great man, as a gracious man. The phrenologists and the astrologers said otherwise. To them it was the picture of a cruel, greedy, self-seeking, dishonest, haughty man. When the king heard the report he cried out, "Either the painter does not know how to paint or there is no such science as astrology and phrenology." So off he went to see Moses and to decide the dilemma. When he reached Moses' abode and saw the man Moses, he raised his hands and cried out, "There is no such science as astrology and phrenology." Moses, very puzzled by this "how-do-you-do" asked him what he meant. When he heard the story, Moses shook his head and said to the king, "There is such a science as astrology and phrenology. Your astrologers and phrenologists told you truly what was in me. What they could not tell you was that by fighting against it I became what I am."

IV

The discussion of these two tests may have given you some feel for the nature and the problem of psychodiagnostics. I hope I managed to convey that though psychodiagnostics has a positive and important contribution *now* to psychiatric clinical work, it is a discipline in the very beginning of its development. Both the obstacles it has to cope with as yet and the possibilities it has in clinical work and research are vast.

The Rorschach and the Bellevue Tests are not the only ones widely used at present. The Thematic Apperception Test and various Association Tests are just as widely used. In work with borderline cases, psychotics, and cases of organic etiology, the concept formation tests, like the Hanfman-Kasanin and Goldstein-Scheerer, are generally used. In the diagnosis of personality, just as much as of mental disorder, it is a postulate of sound psychodiagnostic practice to use batteries of tests and not any single one; this postulate is no less important than that of using such tests *only* in conjunction with case history and clinical examination.

In the last few years it has been quite the rage to put out new psychodiagnostic tests. Many have been described in the literature, and quite a few have appeared even on the clinical scene. Some of these are promising, some are not. There are two points about these tests

worth making: 1) no single test by itself at present can do the psychodiagnostic job, and there is good reason to doubt that, short of a revolutionary discovery in psychiatric theory, a single test can ever be developed to do it. 2) My personal feeling is that there is so much that we need to learn about the tests we now have that it would be preferable if somewhat more of our total volume of ingenuity would go into that rather than into new tests. I realize, however, that creative genius cannot be stopped.

Finally, a word to those who wonder of what use psychodiagnostic procedures can be to medical men not experienced in psychiatry.

Tests are no better than the diagnostician using them. They do not replace psychiatric knowledge, case history and psychiatric examination. Therefore the general practitioner, unless specifically trained in psychiatry and psychodiagnostics, should have recourse to specialists in their use. Even psychiatrists familiar with these tests should prefer the help of specialists, for the same reasons which recommend comparable help in complex laboratory examinations.

In psychosomatic disorders, too, it will be preferable for the general or specialized medical man to deal with both the psychiatrist and the psychodiagnostician, since the findings of the latter may often need the evaluation of the psychiatrist in the light of *his* data. There *are* psychodiagnosticians trained and experienced in dealing with all psychiatric history and examinational procedures. They are, however, rather the minority and must be individually found. Such psychodiagnosticians will be capable of working directly with the medical man in diagnosis, research and even treatment of psychosomatic disorders.

How can the medical man recognize reputable psychodiagnosticians? They are clinical psychologists of professional standing and members of the American Psychological Association. They have been, or are being, certified by the American Board of Examiners in Professional Psychology. There is a determined effort being made to standardize the professional practice of clinical psychology. This effort is being carried on in consultation with the American Psychiatric Association in order to insure harmonious relations of these two closely related professions, and in order to plan jointly the combating of quackery and malpractice. It should be remembered, however, that standardization is a slow affair, studded with grandfather clauses and tolerance to a fault. In such a period a profession is best judged by the strongest and not by the weakest links in its chain.